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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,847	07/25/2003	Li-Ying Yang	FDN-2794	2639

7590 11/17/2004

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EXAMINER

JACKSON, MONIQUE R

ART UNIT PAPER NUMBER

1773

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/627,847

Applicant(s)

YANG, LI-YING

Examiner

Monique R Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The amendment filed 11/1/04 has been entered. Claims 1-5 are pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Claim Rejections - 35 USC § 112*

3. Claims 1-5 are rejected under 35 U.S.C. 112, first paragraph, for generally the same reasons as recited previously and restated below.

The specification, while being enabling for polyester reinforced metallocene catalyzed polyethylene membranes, does not reasonably provide enablement for any reinforced metallocene catalyzed polyethylene membrane. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The specification only discloses heat seam peel strengths and cold brittleness point values as instantly claimed for a membrane produced from polyester reinforced metallocene catalyzed polyethylene.

Further, the claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The instant disclosure teaches that various additives may be incorporated into the polyolefin layers and that these same conventional ingredients were incorporated into the inventive examples resulting in the claimed property values and included 0-80 parts of fire retardant, 0-55 parts of crystallinity enhancing polymers, 0-50 parts of ethylene-propylene rubber and a number of other additives, **with no indication of**

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**the specific types of additives or amounts utilized in the examples which produced these claimed properties or how the incorporation of these additives affect the claimed heat seam peel strength or cold brittleness point particularly given that up to 50% of the composition is formed from one or more of the listed additives.** Other than the examples provided in the original disclosure, which are produced utilizing metallocene catalyzed polyolefin with **no clear indication of the type and amount of the other ingredients utilized to produce the examples that provide support for the claimed properties**, the instant disclosure provides little to no guidance for one skilled in the art to be able to make the roofing membrane with the required heat seam peel strength and cold brittleness point. Hence given the level of predictability in the art, the original disclosure does not describe the subject matter in a way that one skilled in the art could make the invention without performing undue experimentation to determine the amount of metallocene catalyzed polyolefin in combination with 10-50% of one or more various additives would produce the instantly claimed membrane with the desired heat seam peel strength and cold brittleness point.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 3 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 3 and 5 recite the limitation "said polyolefin" in line 2. There is insufficient antecedent basis for this limitation in the claim considering Claim 1 has been amended to read polyethylene instead of polyolefin.

***Claim Rejections - 35 USC § 102***

6. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Glogovsky et al (USPN 6,743,864) for the reasons recited previously and restated below.

Glogovsky et al teach a polyolefin composition including 15-40wt% of a crystalline polypropylene, 60-85wt% of an elastomeric fraction such as ethylene-butene copolymer, both of which may be produced by metallocene catalysts, and up to 50wt% of conventional additives, wherein the polyolefin composition may be utilized to produce roofing membrane of 5 to 200 mils that may be scrim reinforced (Abstract; Col. 5; Col. 7, lines 19-30; Col. 8, lines 14-60) wherein the Examiner takes the position that the invention taught by Glogovsky et al would inherently possess the same properties as instantly claimed given that the membrane taught by Glogovsky et al comprises the same materials as the roofing membrane instantly claimed.

***Claim Rejections - 35 USC § 103***

7. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Middlesworth et al (US H2000 H) for the reasons recited in the prior office action and restated below.

Middlesworth et al teach a metallocene-catalyzed polyolefin composition comprising a 30-70% of a metallocene-catalyzed polyethylene with a molecular weight distribution of less than 3, preferably less than 2.5, such as EXACT 3028 – an ethylene/butene copolymer from Exxon-Mobil, and 30-70% filler that may include various additives including a crystalline polymer, wherein one or more films of the composition may be useful in producing roofing membranes and may be laminated to a fabric or reinforcing material (Abstract; Col. 2, lines 6-20; Col. 3; Col. 6; Col 7, lines 48-68.) Though Middlesworth et al teach that the metallocene catalyzed polyolefin composition can be utilized in producing roofing membranes and may be

laminated to a reinforcing fabric, Middlesworth et al do not specifically teach incorporating a reinforcing material between two layers of the polyolefin composition to produce a single ply roofing membrane however it is well established in the art that a single ply roofing membrane may be produced by sandwiching a reinforcing material between cap and base layers and hence it would have been obvious to one skilled in the art to produce the roofing material as such and further that one skilled in the art at the time of the invention would have been motivated to determine the optimum thickness of the resulting membrane given that thickness is a result-effective variable affecting the flexibility and mechanical properties of the membrane for a particular end use. Lastly, the Examiner takes the position that a roofing membrane produced from the metallocene catalyzed polyolefin composition taught by Middlesworth et al would exhibit heat seam peel strength values and cold brittleness point values within the instantly claimed ranges given that the polyolefin compositions are the same, or alternatively, one skilled in the art at the time of the invention would have been motivated to determine the optimum amount of filler material to utilize to provide the desired heat seam peel strength and cold brittleness point for the roofing membrane taught by Middlesworth et al.

#### ***Response to Arguments***

8. Applicant's arguments and declaration filed 11/1/04 have been fully considered but they are not persuasive. With regards to the rejection over Glogovsky, the Applicant's declaration submitted to swear behind the earliest effective date of Glogovsky does not provide a clear indication of the reduction to practice as argued by the Applicant. The Examiner notes that the notebook pages submitted do not appear to provide any data with respect to the instantly claimed

heat seam peel strength values and cold brittleness point values for the membrane as instantly claimed.

9. In terms of the rejection under 35 USC 112, first paragraph, the Applicant states that the claims as amended overcome the rejection given that amended claim 1 now recites polyethylene instead of polyolefin and more specifically identifies the various additives. However, the Examiner notes that the amendment and Applicant's arguments fail to address the enablement issue wherein, as stated in the prior office action and discussed again above, the original disclosure does not describe the subject matter in a way that one skilled in the art could make the invention without performing undue experimentation to determine the amount of metallocene catalyzed polyethylene in combination with 10-50% of one or more various additives would produce the instantly claimed membrane with the desired heat seam peel strength and cold brittleness point given the level of unpredictability in the art, particularly given that up to 50% of the composition is formed from one or more broadly classified additives. The instant disclosure provides no guidance to one skilled in the art as to how to select some amount from 10 to 50% of some additive or combination of additives selected from the list of additives claimed to provide the desired properties required and claimed in the invention. Hence, the Examiner maintains her position that the instant disclosure does not meet the enablement requirement of 35 USC 112, first paragraph.

10. With respect to the rejection over Middlesworth et al, the Examiner first notes that the previous statement in parenthesis at the end of paragraph 6 of the prior office action was in error given that the instant claims are directed to a cold brittleness point of below minus 50. Further, the Examiner maintains that a roofing membrane produced from the metallocene catalyzed

polyolefin composition taught by Middlesworth et al would exhibit heat seam peel strength values and cold brittleness point values within the instantly claimed ranges given that the metallocene catalyzed polyolefin compositions are the same, or alternatively, one skilled in the art at the time of the invention would have been motivated to determine the optimum amount of filler material to utilize to provide the desired heat seam peel strength and cold brittleness point for the roofing membrane taught by Middlesworth et al. In terms of Applicant's argument that Middlesworth et al do not teach a reinforced membrane, as recited previously and restated above, though Middlesworth et al teach that the metallocene catalyzed polyolefin composition can be utilized in producing roofing membranes and may be laminated to a reinforcing fabric, Middlesworth et al do not specifically teach incorporating a reinforcing material between two layers of the polyolefin composition to produce a single ply roofing membrane however it is well established in the art that a single ply roofing membrane may be produced by sandwiching a reinforcing material between cap and base layers and hence it would have been obvious to one skilled in the art to produce the roofing material as such and further that one skilled in the art at the time of the invention would have been motivated to determine the optimum thickness of the resulting membrane given that thickness is a result-effective variable affecting the flexibility and mechanical properties of the membrane for a particular end use.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**



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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Monique R Jackson  
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November 10, 2004